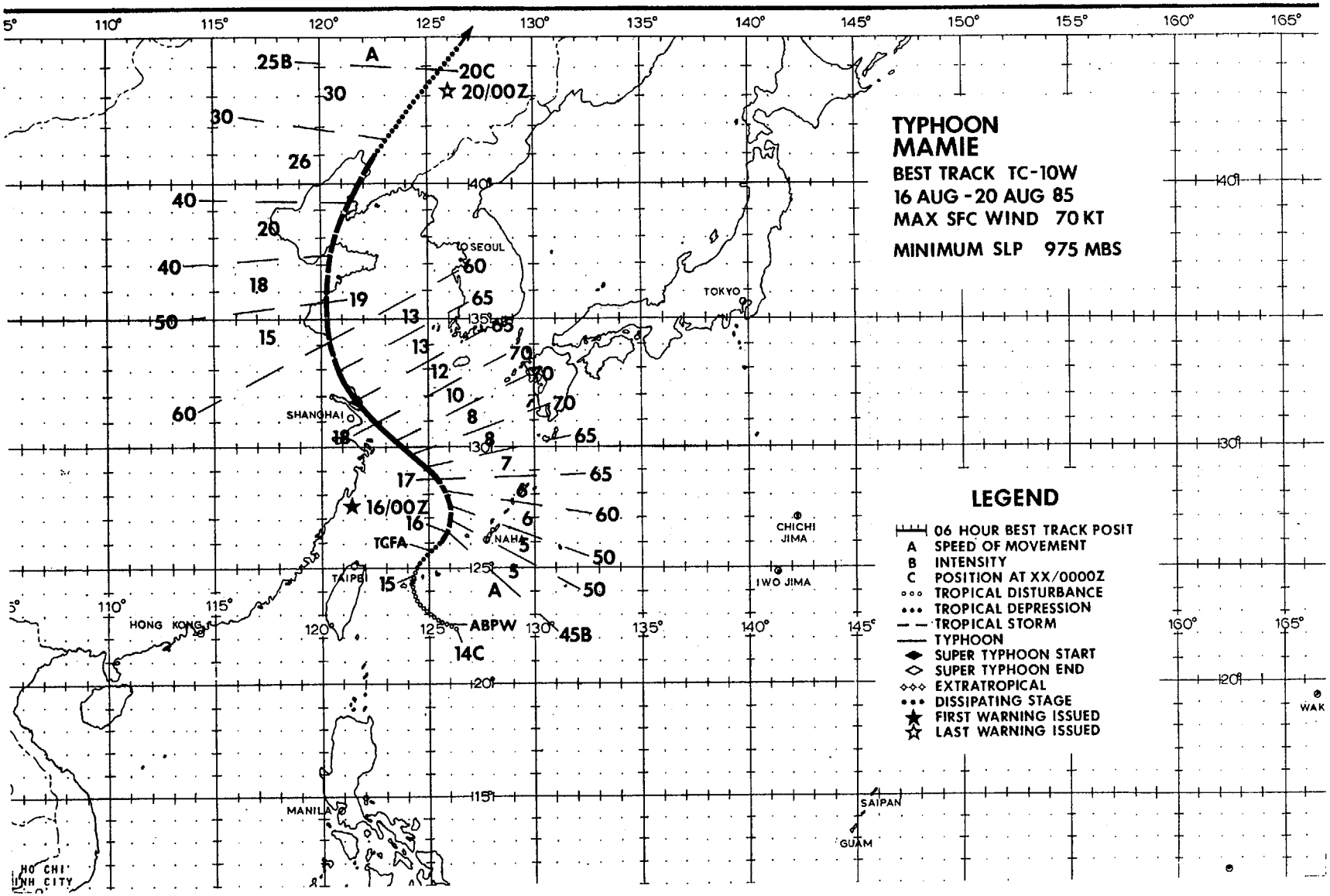
TYPHOON
MAMIE
BEST TRACK TC-10W
16 AUG - 20 AUG 85
MAX SFC WIND 70 KT
MINIMUM SLP 975 MBS
LEGEND
06 HOUR BEST TRACK POSIT
A SPEED OF MOVEMENT
B INTENSITY
C POSITION AT XX/0000Z
TROPICAL DISTURBANCE
TROPICAL DEPRESSION
TROPICAL STORM
TYPHOON
SUPER TYPHOON START
SUPER TYPHOON END
EXTRATROPICAL
DISSIPATING STAGE
FIRST WARNING ISSUED
LAST WARNING ISSUED
20C
20/00Z
16/00Z
ABPW
14C
45B
TGFA
SEOUL
TOKYO
SHANGHAI
TAIPEI
NAHA
HONG KONG
MANILA
CHICHI JIMA
IWO JIMA
SAIPAN
GUAM
WAK
HO CHI MINH CITY

Despite reaching a maximum intensity of only 70 kt (36 m/s), Typhoon Mamie was one of the more destructive tropical cyclones of the 1985 western North Pacific season. Following a path similar to its predecessor, Tropical Storm Lee, Mamie was responsible for at least 35 deaths and caused heavy damage to crops, homes, and shipping. For two days, Mamie skirted a 400 nm (740 km) stretch of the eastern Chinese coast from Shanghai (WMO 58367) to the Shantung Peninsula, inundating farmland and washing away many dikes and dams with its torrential rains. More than 800,000 civilians and soldiers were mobilized to combat the flooding and repair damage. Estimates of the destruction caused by Mamie were staggering: over 6.5 million trees uprooted, 2.9 million metric tons of high stalk farm crops ruined, more than 120,000 houses destroyed or damaged, over 200 watercraft of various types sunk or driven aground, and over 122,000 domestic livestock drowned.

Mamie formed from an area of convection that was originally part of the southwest monsoon flow into Tropical Storm Lee. At 0129Z on 14 August, visual satellite imagery indicated slight curvature in an area of convection due east of Taiwan that had separated from Lee's inflow. Figure 3-10-1 shows this area and its relationship to Lee. Subsequently, the area was included as a "poor" on the 140600Z Significant Tropical Weather Advisory (ABPW PGTW). Satellite imagery through the remainder of the 14th showed the disturbance was turning to the north and becoming more organized as the separation from Lee's wind field increased. The 150600Z ABPW PGTW bulletin reflected this development by upgrading the potential for development to "fair" and aircraft reconnaissance of the disturbance was requested for the following morning.

At 151200Z, a TCFA was issued, based on increased curvature of the convective bands and anticyclonic cirrus outflow indicated by satellite imagery. At this point, the area was beginning to intensify more rapidly than before, due partly to Lee's waning influence on the new circulation. At 152340Z, aircraft reconnaissance closed-off a circulation of tropical storm intensity 90 nm (167 km) due west of Okinawa, prompting the issuance of the first warning on Mamie at 160000Z. Less than three hours later Kadena AB on Okinawa reported its strongest winds from Mamie - south at 20 kt (10 m/s) with a peak gust to 35 kt (18 m/s).

On 16 August Mamie began to turn to the northwest. This turn was due to the low-level ridge north of Mamie strengthening slightly as the mid-latitude trough that had interacted with the remnants of Tropical Storm Lee began to move rapidly to the east in the mid-latitude westerlies. However, the ridge never became strong enough to stop Mamie from heading north-northwest, then north through a weak area in the ridge that persisted throughout Mamie's lifetime. Mamie continued to intensify, reaching typhoon intensity at about 170000Z as it moved northwest at 7 kt (13 km/hr) toward Shanghai (WMO 58367).

The Typhoon reached a peak intensity of 70 kt (36 m/s) 12-hours later at 171200Z, just prior to affecting the Chinese coast near Shanghai (Figure 3-10-2). Mamie traversed the Chinese coastline, hitting Tsingtao, with decreased winds of 50 kt (26 m/s) at about 190200Z. Mamie then turned north around the western periphery of the subtropical ridge and crossed the Shantung Peninsula, striking Yantai, China (near Fushan WMO 54764) at about 190600Z.

Mamie accelerated to 20 kt (37 km/hr) and weakened to a 40 kt (21 m/s) tropical storm just prior to crossing the Yellow Sea and moving toward Dairen, China (WMO 54662). After making landfall just west of Dairen at 191200Z, Mamie began to dissipate over land. Because Mamie's intensity decreased to an estimated 25 kt (13 m/s) and due to its location over the mountains of northeast China, the last warning was issued at 200000Z.

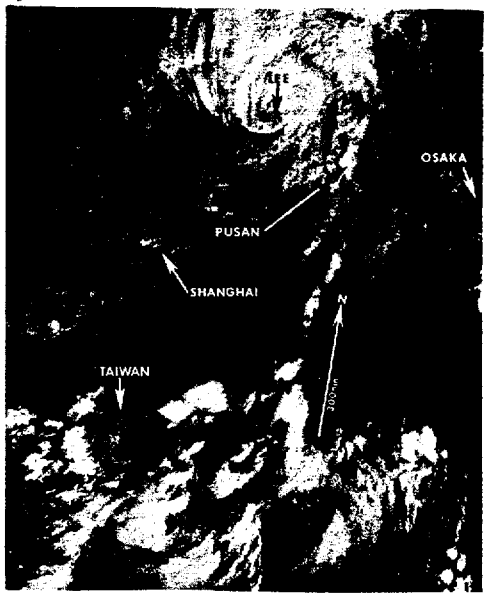

Figure 3-10-1. The tropical disturbance that became Typhoon Mamie is located east of the island of Taiwan. The slightly curved convective band and separation from the cloudiness associated with Tropical Storm Lee to the north were the first signs of organization (1401Z92 August DMSP visual imagery).

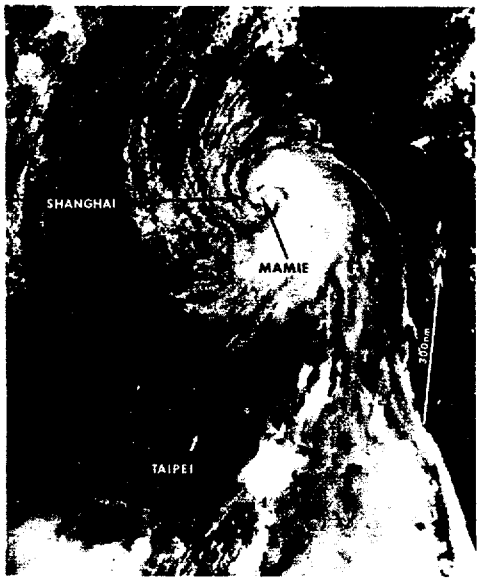

Figure 3-10-2. Mamie with typhoon force winds passing just east of Shanghai, China (1801Z92 August DMSP visual imagery).